UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,254	07/29/2003	Yunxin Wu	13768.426	6705

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EXAMINER
GORTAYO, DANGELINO N

ART UNIT	PAPER NUMBER
2168	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/629,254	WU ET AL.
	Examiner	Art Unit	
	Dangelino N. Gortayo	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _29 July 2003_.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-41_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _25-39 and 41_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☒ Claim(s) _1-41_ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _29 July 2003_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _7/29/2003 1/24/200_.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Election/Restrictions

1.   Restriction to one of the following inventions is required under 35 U.S.C. 121:

> I.   Claims 1-24, 40, drawn to method of synchronizing items at a plurality of
>
> replicas while using a common logical view (or structure) to perform the
>
> required mapping of distributed data, classified in class 709, subclass 248.
>
> II.   Claim 25-39, 41, drawn to method for generating a mapping of the
>
> physical layout of items in a data store to a common logical view,
>
> classified in class 707, subclass 201.

2.   The inventions are distinct, each from the other because of the following reasons:

Inventions Group I and II are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as

claimed does not require the particulars of the subcombination as claimed for

patentability, and (2) that the subcombination has utility by itself or in other

combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed

does not require the particulars of the subcombination as claimed because

synchronizing items using a common logical view does not require mapping the physical

layout of items in a data store. The subcombination has separate utility such as

searching the physical layout of items using a common logical view.

3.   Because these inventions are independent or distinct for the reasons given

above and have acquired a separate status in the art in view of their different

classification, restriction for examination purposes as indicated is proper.

4.   Because these inventions are independent or distinct for the reasons given

above and search required for Group I is not required for Group II, restriction for

examination purposes as indicated is proper.

5.   Because these inventions are independent or distinct for the reasons given

above and have acquired a separate status in the art because of their recognized

divergent subject matter, restriction for examination purposes as indicated is proper.

6.   A telephone call was made to Attorney Rick D. Nydegger (Registration Number

28651) on 2/15/2006 to request an oral election to the above restriction requirement,

group II is elected without traverse.

Claim Rejections - 35 USC § 101

7.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8.   Claim 41 is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. The claim is directed towards a computer

program product, which is software and is non-statutory.

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10.   Claims 25-37 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by

LaRue et al. ("LaRue" US Patent 6,401,104 B1).

        As per claim 25, LaRue discloses "At a compiling computer system, a method for

generating a mapping of the physical layout of items in a data store to a logical view, the

method" (see Abstract)

        "an act of accessing core code that can be used to facilitate compilation of logical

schemas;" (Figure 3B and column 13 lines 35-48, wherein the application program is

executed with code).

        "an act of accessing a logical schema, the logical schema including:"(column 14

lines 27-52, wherein a synchronizer dataset, or GUD, is analogous to a logical schema)

"a change unit that defines the granularity of an item;"(column 16 lines 32-45, wherein

the synchronizer holds records for mutually mapped record fields, indicating granularity)

"and a consistency unit, defining the changes of one or more items of the defined

granularity that must be received in the same synchronization in order for any of the one

or more items to be updated in a replica;" (column 19 lines 42 – column 20 line 10,

wherein the GUD holds values, called Tsync and FRSH, that defines changes made to

the records)

"and an act of utilizing the core code to compile the logical schema into at least a

catalog,"(column 16 lines 15-29, wherein GUD records are analogous to catalogs and

are read through the application) "the catalog mapping items from a physical layout to a

logical view, the logical view being substantially similar to a logical view at one or more

other computer systems." (column 20 lines 11-23 and lines 35-52, wherein GUD records

hold mapping information between record location and record value names, and are

similar to others for synchronization purposes)

As per claim 26, LaRue discloses "an act of configuring the compiling computer

system to send items to at least one of the one or more other computer systems."

(Figure 2B and column 18 lines 26-39, wherein one party can send user data to other

parties)

As per claim 27, LaRue discloses "an act of installing the catalog to a computer

system for use with a data store configured in the physical layout." (Figure 2A and

column 17 lines 25-47, wherein a computer system can build or modify a group of GUD

records for use with the data in the database)

As per claim 28, LaRue discloses "an act of sending the catalog to a computer

system for use with a replica that is configured to synchronize data according to the

logical view." (column 17 lines 45-56, wherein a synchronizer can send and receive

GUD records to synchronize data to logical view)

As per claim 29, <u>LaRue</u> discloses "an act of dividing the computer system into a data store layer and a synchronization layer." (Figure 3D and column 15 lines 5-13, wherein a system has a database layer, analogous to a data store layer, and a core synchronization logic layer, analogous to a synchronization layer)

As per claim 30, <u>LaRue</u> discloses "the act of compiling further creates procedures or functions code, the procedures or functions code is adapted to arrange items in the data store layer and further comprising an act of locating the procedures or functions code at the data store layer." (column 15 line 57 and column 16 line 4, wherein the database layer provides database services of the GUD via the application, which executes code to run)

As per claim 31, <u>LaRue</u> discloses "an act of locating the catalog in the synchronization layer." (column 15 lines 13-35, wherein the core synchronization logic layer processes inbound actions, including locating and creating records in the GUD)

As per claim 32, <u>LaRue</u> discloses "an act of storing a local change tracker at the data store layer, the local change tracker maintaining local change enumerations for items stored in the data store layer;" (column 26 lines 31-38, wherein the synchronizer keeps track of changes to the records as well as mapping changes on the database layer level)

"an act of storing a synchronization change tracker at the synchronization layer, the synchronization change tracker maintaining versions and synchronization local change enumerations for the items stored in the synchronization layer;" (column 2 lines

43-50, wherein the synchronizer determines and maintains changes made to record in the GUD)

"and wherein by comparing the local change tracker with the synchronization local change tracker, the computer system can determine if an item stored in the data store layer of the computer system should be sent and thus mapped to the logical view in synchronization." (column 26 lines 50-57, wherein the synchronizer propagates any changes made, as well as mapping changes for synchronization)

As per claim 33, LaRue discloses "if the local change enumeration and the synchronization local change enumeration comprise different values, then the item stored in the data store layer of the computer system should be mapped to the logical view." (Figure 7A references 723 and 725, and column 27 lines 1-16, wherein if a change is detected, then the mapping is altered with regards to the record changes)

As per claim 34, LaRue discloses "if the local change enumeration and the synchronization local change enumeration comprise the same value, then the item stored in the data store layer of the computer system does not need to be mapped to the logical view." (column 26 lines 30-34, wherein the mapping is altered only if no changes are detected)

As per claim 35, LaRue discloses "the versions comprising replica IDs correspond to a computer systems in the topology" (column 27 lines 33-53, wherein dataset ID identifies a computer system) "and change enumerations corresponding to a chronological order that a change was made." (column 28 lines 6-17, wherein a priority time and time stamp are included to identify chronological order of changes)

As per claim 36, <u>LaRue</u> discloses "the replica ID corresponds to a computer system that changed the item" (column 28 lines 47-56, wherein the dataset ID helps identify which client dataset has changed)

As per claim 37, <u>LaRue</u> discloses "the replica ID corresponds to a computer system that assigns versions for changes made at computer systems other than the computer system that assigns versions for changes." (column 28 lines 44-52, wherein the computer system can identify which client other than the originating computer system has made changes based on the synchronizer's GUD)

As per claim 41, <u>LaRue</u> discloses "A computer program product for use in a compiling computer system, the computer program product for implementing a method for generating a mapping of the physical layout of items in a data store to a logical view, the computer program product comprising one or more computer-readable media having stored thereon computer executable instructions that, when executed by a processor, cause the compiling computer system to perform the following" (see Abstract and column 5 lines 30-43)

"access core code that can be used to facilitate compilation of logical schemas;" (Figure 3B and column 13 lines 35-48, wherein the application program is executed with code).

"access a logical schema, the logical schema including:"(column 14 lines 27-52, wherein a synchronizer dataset, or GUD, is analogous to a logical schema) "a change unit that defines the granularity of an item;"(column 16 lines 32-45, wherein the

synchronizer holds records for mutually mapped record fields, indicating granularity)

"and a consistency unit, defining the changes of one or more items of the defined

granularity that must be received in the same synchronization in order for any of the one

or more items to be updated in a replica;" (column 19 lines 42 – column 20 line 10,

wherein the GUD holds values, called Tsync and FRSH, that defines changes made to

the records)

"and utilize the core code to compile the logical schema into at least a

catalog,"(column 16 lines 15-29, wherein GUD records are analogous to catalogs and

are read through the application) "the catalog mapping items from a physical layout to a

logical view, the logical view being substantially similar to a logical view at one or more

other computer systems." (column 20 lines 11-23 and lines 35-52, wherein GUD records

hold mapping information between record location and record value names, and are

similar to others for synchronization purposes)

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

12.   Claims 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over

LaRue et al. ("LaRue" US Patent 6,401,104 B1) in view of Piispanen et al. ("Piispanen"

US Patent 6,721,871 B2).

        As per claim 38, LaRue does not teach "an act of storing a folder which is

exposed to a user interface as a generic way to organize data items, in the data store

layer, the folder being adapted to group items together." Piispanen teaches "an act of

storing a folder which is exposed to a user interface as a generic way to organize data

items, in the data store layer, the folder being adapted to group items together." (Figure

4 and column 8 lines 6-22, wherein data is presented on a user interface in the form of

folders with a tree structure to organize data).

        It would have been obvious at the time of the invention for one of ordinary skill in

the art to combine LaRue's method of establishing mapping between physical and

logical views with Piispanen's method of organizing and presenting data in folders when

mapping. This gives the user a more organized way to view data between

heterogeneous databases. The motivation for doing so would be to present the user

with updated versions of data wherever they are.

        As per claim 39, Piispanen discloses "the replica is configured to send items

grouped in the folder." (column 8 lines 25-31`, wherein the system can send data

grouped in the folder for synchronization).

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Crozier (US Patent 5,392,390 A)

Boothby (US Patent 5,943,676 A)

Mendez (US Patent 6,151,606 A)

Bodnar et al. (US Patent 6,295,541 B1)

Huang et al. (US Patent 6,393,434 B1)

Boothby (US Patent 6,405,218 B1)

LaRue et al. (US Patent 6,535,892 B1)

Pivowar et al. (US Patent 6,553,037 B1)

Sutinen et al. (US Patent 6,839,564 B2)

Champagne et al. (US Patent 6,925,477 B1)

Apfel (US Patent 6,973,299 B2)

14.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dangelino N. Gortayo whose telephone number is

(571)272-7204. The examiner can normally be reached on M-F 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Dangelino N. Gortayo
Examiner
2/27/06

Debbie M. Le
Primary Examiner
2/24/06